UPDATE TO

DECUS PDP-11 CATALOG

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DECUS

February 1975

PAYMENT

All DECUS service charges are to help defray the cost of reproduction, handling and postage. All orders must be accompanied by cash, DECUS Coupons or Purchase Order. Please make checks payable to DECUS.

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All charges are in U. S. Dollars. A $2.00 invoicing charge is added to all orders which are not prepaid.

All charges are subject to change without notice.

European Users - Payment may be made in your currency to: Martha Ries, Digital Equipment Co., Int'l-Europe, Case Postale 340, 1211 Geneva 26, Switzerland. Please refer to currency exchange charts available from that office.

Australian Users and New Zealand Users - Payment may be made in your currency to DECUS Australia, P. O. Box 491, Crows Nest, NSW, 2065 Australia. Please refer to currency exchange charts available from that office.

WRITE-UPS

With certain exceptions single copies of associated write-ups are automatically included at no charge with programs ordered and with all library tapes.

Most write-ups may also be requested without tapes. Reasonable requests (usually 15 or fewer write-ups) will be filled without charge. When more than 15 individual write-ups are requested, a service charge of fifteen cents (15¢) per write-up will apply. EXCEPTIONS: Write-ups for which an individual service charge is indicated.

Requests for multiple copies of the same write-up will be charged at a rate of $1.00 per copy (first copy free), or at the service charge indicated.

Complete sets of current write-ups for each library are available. Service Charges are:

PDP-8	$120.00
BASIC8	15.00
FOCAL8	50.00
PDP-12	25.00
PDP-11	45.00
RSTS11	40.00
PDP-6/10 & 10 (combined)	35.00
PDP-9 & 15 (combined)	25.00

TAPES

In some cases it is possible to pack programs on DECtape. Such cases will be considered on an individual basis. Please contact the appropriate DECUS Library Controller for specific information.

Programs customarily distributed on paper tape will not be packed on DECtape.

RSTS-11 programs are on disk and can be transferred to any distribution media (paper tape, DECtape, magtape or disk). Service charges will vary according to the media involved. Contact the PDP-11 controller for complete information.

All User Supplied DECtapes must be new and formatted. DECUS cannot/ will not copy programs to unformatted tapes.

When it is indicated that certain programs occupy the same tape, only one service charge will apply for any combination of programs on that tape. (Library Tapes excluded.)

When requesting magtapes, the user should specify whether 7 track or 9 track tapes are needed.

There are four Library LINCtapes of PDP-12 programs. Contents of tapes and applicable Service Charges are:

TAPE	DECUS NO's.	USER TAPE	DECUS TAPE
1	12-1,2,4	$15.00	$25.00
2	12-5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 20	35.00	45.00
3	12-22, 23, 25, 30, 31, 32, 33 35, 36, 37, 41, 42, 43, 44	35.00	45.00
4	12-45, 46, 47, 51, 54, 55, 56, 57	25.00	35.00

Two Library Magtapes of DECsystem-10 programs are available from DECUS. The tapes are Failsafe, 7 or 9 track, 800 or 556 BPI. If not specified, tapes will be copied 9 track at 800 BPI. Write-ups are supplied, at no charge, for each Library Tape issued.

Tape #1 includes all currently announced 6/10 programs, plus all programs from 10-1 through 10-99 which have been announced as currently available, with the exception of 10-14, 10-34a and 10-86b.

Tape #2a includes all programs from 10-103 through 10-200 which have been announced as currently available, with the exception of 10-176, 10-179a and 10-199.

Service charges quoted are for each library tape, NOT for a combination of the two tapes. Requests for 9 track, 800 BPI require one 2400' Magtape for either Tape #1 or #2a. 7 or 9 track 556 BPI or 7 track 800 BPI may in some cases require an additional 600' Magtape.

Service charges for library tapes are:

DECUS supplied tape	$125.00
User supplied tape(s)	$100.00
DECUS supplied 600' tape	$ 15.00

Users who received previous versions of either tape may request the updated tapes by indicating date of the original purchase order, invoice or letter of credit (specify which) and in whose name the original order was issued.

Service charges for updating library tapes are:

DECUS supplied tape	$50.00
User supplied tape(s)	$25.00
DECUS supplied 600' tape	$15.00

Library Tapes previously ordered will not be automatically updated.

Programs not included on Library Tapes may be obtained as shown in catalog.

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RSX-11D

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11-163

GT-40/44

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RSTS and RSTS/E

See Section E

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Programs not listed here are (for the most part) for 'core only' systems

CATEGORY INDEX

I. PROGRAMMING LANGUAGE, MONITOR, PROGRAMMING SYSTEM

DECUS NO.	TITLE
11-34	PALEDIT
11-38	PAL-11A (12K) Card Reader Assembler
11-42	PAL8X (Stand Alone Version ØØ)
11-43a	DECtape Operating System
11-62	Procedure for Interfacing to FOCAL-11
11-63A.a	SYSGEN Procedure for SRL Magtape Operating System
11-63C.a	SRLSYS - Magtape System Monitor for PDP-11
11-63F.a	PAL-11M - Magnetic Tape Absolute Assembler
11-63G.a	PAL-11MR - Magnetic Tape Relocatable Assembler
11-63J.a	7 Track Magtape Containing Source Code for SRL Magnetic Operating System 12K
11-63K.a	9 Track Magtape Containing Source Code for SRL Magnetic Operating System RELEASE 2 for 12K
11-64a	DOS VERSION OF BASIC
11-65	EDUALO - RKØ78
11-69	ML/I Macro Processor
11-70	DOS BASIC (SIMPLE VERSION)
11-73	LP and CR PDP-11 DOS Drivers for Use with A. B. Dick Videojet Printer
11-76	PDPAS - PDP-11 Assembler
11-84	IOXCRT - Input Output Executive with CRT and Hard Copier
11-85	IOXEXT - Input Output Executive Extended
11-86	EDDY - A Scope Oriented Editor for the PDP-11
11-93C	NPACK
11-95	Real-Time Overlay for 1-8 User BASIC-11
11-96	*1 (STAR ONE)
11-99	KTDVR - Keyboard Terminal Driver for DOS V^4 and V^8
11-108	TTYALL, Multi-Teletype Dispatcher
11-129	Single User BASIC, Version GEO8B
11-144	DELFIL, Delete A File From FORTRAN
11-146	PDM7Ø Support Routines
11-156	DOS FOCAL, DOS Drivers and LIST-11
11-158	STAGE2 for the PDP-11
11-160	BLISS-11
11-166	CILINK - A Swapping Overlay Loader
11-167	Real Time EXF for Single User BASIC
11-169	Tri-Data Paper-Tape PAL-11A Assembler
11-172	RTDOS
11-175	DC.MAC - RC Disk Driver for RT11
11-176	RUN.MAC/SSWTCH.MAC
11-177	PARITY.MAC - High Speed Even (Odd) Parity Paper Punch Driver
RSTS11-49	SADSM
RSTS11-50	MIGIT

II. TEXT EDITING, TEXT MANIPULATION

DECUS NO.	TITLE
11-15	PDP-11 Datapoint Editor - JPEDIT
11-23	BINFED/DOS Based Binary Module List/ Patch Program
11-30	ENCODE/DECODE for PDP-11 FORTRAN IV
11-33	EDITX
11-34	PALEDIT
11-46	Two Conversion Routines EBTASC and ASCTEB
11-55	Modifications to ED-11 V004A
11-63E.a	ED-11M - Magnetic Tape Text Editor
11-86	EDDY - A Scope Oriented Editor for the PDP-11
11-90	Listing Program for a PDP-11 Computer
11-106	Assorted Routines for use with DOS-11
11-132	TED-11A, Text Editor
11-133	COLIST
11-141	FXSUBS
11-163	RSX-11D TECO
RSTS11-1a	EDITOR, V6A
RSTS11-2	UTILITIES, EDITORS and HANGMAN GAME
RSTS11-3	TEXT EDITOR FOR RSTS
RSTS11-5	CREATE and CREAT1
RSTS11-17	TEXTED
RSTS11-18B	GEDIT - GERMAN Data File Editor
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RSTS11-29	EDIT
RSTS11-32	EDIT8
RSTS11-59	LISTAL.BAS
RSTS11-61	HELPER

III. DEBUGGING, DISASSEMBLY, SIMULATION, TRACE, DUMP

DECUS NO.	TITLE
11-8	Dump in Bootstrap Format Binary
11-13	ADUMP
11-20	Trace for PDP-11 Floating Point Package
11-22	DFPEEK/DOS Based Disk Inspect/Patch Routine
11-23	BINFED/DOS Based Binary Module List/ Patch Program
11-26	DSKSAV/DOS Disk SAVE/RESTORE
11-28	Extended ODT-11X
11-48	TRACE Debugging Program
11-50	UNPAL-11
11-52	ODT-11XR
11-58	ODT-11T
11-59	UNPAL-11A Mnemonic Dump
11-66	PALDMP. KØ42
11-74	ODT-11, ODT-11X, Revised
11-79	PDP-11 Reverse Assembler
11-83	KØ82.FILDMP With/PA(L11) Switch Option
11-97	PROCON-11
11-101	Conway's "Life," PAL-11S Version
11-121	WABC Core Dumper
11-122	DVRTST DOS Driver Testing Package
11-134	GONIF
11-138	FODT
11-147	AMD - ANSI CDC 200 Series User Terminal Simulator
11-148	RSX-11D Core Dump
11-149	SNPDMP
11-157A	RSX-11D Task Package
11-161	1401 Simulator
11-164	Clock Generator
RSTS11-37	SPRING THING
RSTS11-38	Analog Computer Simulator

IV. BINARY LOADING, BINARY PUNCHING

DECUS NO.	TITLE
11-4	PDP-11 Binary Loader
11-19	Core Load to MAINDEC Tape/MAINDEC Tape
11-21	CIOFB/DOS Based Overlay File Builder/ Editor (Version 3)
11-23	BINFED/DOS Based Binary Module List/ Patch Program
11-26	DSKSAV/DOS Disk SAVE/RESTORE
11-29	COPYTAPE
11-31	Binary Tape Interpreter/Address Scanner
11-32	MONUP - DOS Monitor Update Program
11-49	HELP Bootstrap
11-53	PDP-11/10 Loader
11-54	MAGTAPE LOADER
11-57	A General-Purpose External Function for PDP-11 BASIC
11-63H.a	LINK-11M
11-63I.a	LOAD-11M - Magnetic Tape Absolute Loader
11-75	LOADER
11-92	SAPLOD - Stand-Alone Program Loader for DOS
11-97	PROCON-11
11-102	FBTRAN - Formatted Binary Transfer
11-109	IOS - PDP-11/45 Formatted Input/Output Task Stacker and Processor
11-125	MINIPIP-11
11-137	BOOT
11-165	MR11DX
11-168	PDP-11 Program to Load Card Output Produced by the Wang IBM 370/PDP-11 Cross Assembler and Linker
RSTS11-60	PUNCH.BAS

V. DUPLICATION, VERIFICATION

DECUS NO.	TITLE
11-11	PDP-11 DECtape Copy Routine
11-14	Paper Tape Duplicator (High Speed Reader to TTY)
11-29	COPYTAPE
11-31	Binary Tape Interpreter/Address Scanner
11-39	"SUPER DUPER" (Fast PDP-11 DECtape Duplication Routine)
11-63D.a	SRLPIP - A File Manipulation Utility for the PDP-11
RSTS11-57	PACK.BAS
RSTS11-58	MOVERX.BAS

VI. NUMERICAL FUNCTION, NUMERICAL INPUT/OUTPUT

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11-2	Single Precision Unsigned Multiply/Divide
11-9	Slow Matrix Inversion for Real Numbers
11-16a	FFT11C - A Fast Fourier Transform Subroutine for Complex Data
11-27	BIOF: BASIC Input/Output Function
11-30	ENCODE/DECODE for PDP-11 FORTRAN IV
11-57	A General-Purpose External Function for PDP-11 BASIC
11-68	ALGEBRA - A Program for Manipulating Logical Expressions
11-71	ACCEPT
11-105	POLFIT, A FOCAL Program to Fit Data to Polynomials up to 6th Degree
11-110	Utility Routines for a PDP-11/45 with a Floating Point Processor
11-112	Fast, Accurate Matrix Equation Solver and Matrix Inverter
11-113	READ - FORTRAN Compatible Free Format Input Routines
11-115	One Programmer's Utility Package for the PDP-11
11-155	RADIX - Base Conversion Routine
RSTS11-9	Project DELTA Educational Package, Section A, Mathematics Programs
RSTS11-43	Elementary Instructional Programs
RSTS11-44	Fractions Drill and Practice
RSTS11-47	Project DELTA Educational Package, Section E Additional Mathematics Programs Section F Teacher Assistance Programs
RSTS11-66	Elementary Instructional Programs, Vol. II

VII. UTILITY

DECUS NO.	TITLE
11-19	Core Load to MAINDEC Tape/MAINDEC Tape
11-21	CIOFB/DOS Based Overlay File Builder/ Editor (Version 3)
11-22	DFPEEK/DOS Based Disk Inspect/Patch Routine
11-25	File Compatibility Package PDP-9/15 DECtape to PDP-11 DECtape
11-26	DSKSAV/DOS Disk SAVE/RESTORE
11-29	COPYTAPE
11-31	Binary Tape Interpreter/Address Scanner
11-32	MONUP - DOS Monitor Update Program
11-35	COMBINE
11-36	Parity Subroutine
11-40	DSKDMP and MTDUMP
11-46	Two Conversion Routines EBTASC and ASCTEB
11-50	UNPAL-11
11-51	PPMT and DUMPMT
11-53	PDP-11/10 Loader
11-60	DSKBOT
11-61	BXMIT
11-63B.a	IOXMTA - IOX Plus TU1Ø Magnetic Tape
11-63D.a	SRLPIP - A File Manipulation Utility for the PDP-11
11-66	PALDMP.KØ42
11-67	EBCDIC to ASCII MAGTAPE CONVERSION
11-68	ALGEBRA - A Program for Manipulating Logical Expressions
11-71	ACCEPT
11-75	LOADER
11-80	PARITY - Paper Tape Compatibility with I.C.L.
11-81	MTFDEL - TU1Ø 7-track Magtape File Deletion Program
11-82	RK11 Disk to Disk Duplicator
11-83	KØ82.FILDMP with /PA(L11) Switch Option
11-86	EDDY - A Scope Oriented Editor for the PDP-11
11-87	CRTEXT
11-90	Listing Program for a PDP-11 Computer
11-91	BLDP11 Block Display Program
11-92	SAPLOD - Stand-Alone Program Loader for DOS
11-102	FBTRAN - Formatted Binary Transfer
11-106	Assorted Routines for use with DOS-11
11-115	One Programmer's Utility Package for the PDP-11
11-116	BACADI, ASCII - EBCDIC Magtape File Dump
11-117	TY.MAC, Typewriter Driver for Extra Teletypes for DOS
11-123	AN5800; A Group of Routines for Handling the Analogic An5800
11-124	BLKUSE, Block Usage Summary for File Structured Devices
11-125	MINIPIP-11
11-128	QUANDA
11-139	QANDA
11-144	DELFIL, Delete a File from FORTRAN

VII. UTILITY

DECUS NO.	TITLE
11-150	RFSAV and RFRST
11-155	RADIX - Base Conversion Routine
11-157C	RSX-11D Task Package
11-159	READID.MAC
11-165	MR11DX
11-166	CILINK - A Swapping Overlay Loader
11-170	DOS/RT11 9-track Magtape Generate/Read Programs for UNIVAC
11-171	DEAS
11-175	DC.MAC - RC Disk Driver for RT11
11-177	PARITY.MAC - High Speed Even (Odd) Parity Paper Punch Driver

RSTS11-2	UTILITIES, EDITORS and HANGMAN GAME
RSTS11-5	CREATE and CREAT1
RSTS11-35	COMSYS - RSTS-11 Communications System
RSTS11-36	READID.MAC
RSTS11-51	ACCMAT - Account Maintenance File
RSTS11-54	TAPFOR.MAC
RSTS11-55	XREF.BAS
RSTS11-56	The Timer Package
RSTS11-57	PACK.BAS

VIII. DISPLAY

DECUS NO.	TITLE
11-45	DLINES
11-87	CRTEXT
11-91	BLDP11 Block Display Program
11-114	GT.40 MAC - A FORTRAN Subroutine Set for the GT40 Series Display (VT11)
11-115	One Programmer's Utility Package for the PDP-11
11-116	BACADI, ASCII-EBCDIC Magtape File Dump
11-128	QUANDA
11-130	VT, PDP-11 DOS Compatible Driver for Tektronix 4010 Graphics Display Terminal
11-139	QANDA
RSTS11-8	System Status Display - Hazeltine 2000

IX. DATA MANAGEMENT, SYMBOL MANIPULATION, SORTING

11-22	DFPEEK/DOS Based Disk Inspect/Patch Routine
11-23	BINFED/DOS Based Binary Module List/ Patch Program
11-25	File Compatibility Package PDP-9/15 DECtape to PDP-11 DECtape
11-27	BIOF: BASIC Input/Output Function
11-42	PAL8X (Stand Alone Version ØØ)
11-80	PARITY - Paper Tape Compatibility with I.C.L.
11-88	COMPU/CORDER PDP-11 DOS Driver or "How to Make a Cassette Behave Like DECtape"
11-89	ZERO
11-93B	SCORE
11-98	MASK
11-116	BACADI, ASCII-EBCDIC Magtape File Dump
11-118	GULP, GAMMA-11 Utility Program
11-123	AN5800; A Group of Routines for Handling the Analogic AN5800
11-175	DC.MAC - RC Disk Driver for RT11
11-177	PARITY.MAC - High Speed Even (Odd) Parity Paper Punch Driver
RSTS11-6	RESEQ - Program Resequencing
RSTS11-42	MIS - Management Information System

X. PROBABILITY, STATISTICS, CURVE FITTING

DECUS NO.	TITLE
11-77	PERMUT - Permutes a Given Sequence of Numbers
11-78	DFWFT - Discrete Fast Walsh-Fourier Transform Subroutine
11-127	Interval Histogram Program V.003
RSTS11-10	Project DELTA Educational Package, Section B, Statistics Programs
RSTS11-30	COSAP - Conversationally Oriented Statistical Analysis Package
RSTS11-45	Dartmouth Statistics Programs

XI. SCIENTIFIC APPLICATION, ENGINEERING APPLICATION

11-12	AC Circuit Program
11-16a	FFT11C - A Fast Fourier Transform Subroutine for Complex Data
11-44	Electron Spin Resonance and General Integration Program
11-57	A General-Purpose External Function for PDP-11 BASIC
11-71	ACCEPT
11-78	DFWFT - Discrete Fast Walsh-Fourier Transform Subroutine
11-103	STRESS, A Finite Element Computer Program for Two-Dimensional Stress Analysis of Elastic Solids
11-104	HEAT, A Finite Element Computer Program for Two-Dimensional Steady-State Conduction Heat Transfer Analysis
11-111	"LEM" (Simulation of a Lunar Landing)
11-119	Volume/Dosage Calculation Program for Tc or In
11-120A	Determination of Blood Volume
11-120B	Red Blood Cell Survival
11-126	ECAP
11-127	Interval Histogram Program V.003
11-135	TGH GAMMA-11 Package - HEAD, STOM, RENO
11-136	THYR
11-142	UPTK
11-143	STIRS, Self-Training Interpretive and Retrieval System Programs for Mass Spectral Data
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XI. SCIENTIFIC APPLICATION, ENGINEERING APPLICATION

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11-152	GAMMA-11 Package: VQ, MTT, QPQS, XEBH
11-153	SMOT
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RSTS11-12	Project DELTA Educational Package, Section D, Electronics and Production Oriented Programs
RSTS11-27	GENES
RSTS11-63	NORTON - Astronomical Ephemeris Program Package
RSTS11-64	NMRSIM - Nuclear Magnetic Resonance Simulation and Plotting Program
RSTS11-65	SPPLT - Hybrid Orbital Contour Plotting Program

XII. HARDWARE CONTROL

DECUS NO.	TITLE
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11-41	DECtape Handler
11-47	External Functions for PDP-11 BASIC
11-55	Modifications to Ed-11 V004A
11-57	A General-Purpose External Function for PDP-11 BASIC
11-63B.a	IOXMTA - IOX Plus TU1Ø Magnetic Tape
11-81	MTFDEL - TU1Ø 7-track Magtape File Deleting Program
11-93A	ADC
11-97	PROCON-11
11-100	LP.PAL, SP.PAL; TTY Drivers for Printer, Punch and Reader of V4 Monitor
11-114	GT40.MAC - A FORTRAN Subroutine Set for the GT40 Series Display (VT11)
11-175	DC.MAC - RC Disk Driver for RT11
11-177	PARITY.MAC - High Speed Even (Odd) Parity Paper Punch Driver
RSTS11-15	LSFORM - LS11 Centronix Line-Printer Driver for RSTS V4A

XIII. GAME, DEMONSTRATION

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11-5	Blackjack for FOCAL-11
11-10	PDP-11 BASIC Demonstration Package
11-37	Conway's Game 'LIFE'
11-72	"3D-TIC-TAC"
11-101	Conway's "Life," PAL-11S Version
11-106	Assorted Routines for use with DOS-11
11-107	"The Hockey Game"
11-111	"LEM" (Simulation of a Lunar Landing)
11-131	CALEND - Calendar Generator
11-162	CHSSLV: A Chess-Problem Solver
11-173	Moonlander (LEM)
11-174	STAR-TREK (SPACWR)
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RSTS11-13	Games, Puzzles and Recreation - 1
RSTS11-14	Games, Puzzles and Recreation - 2
RSTS11-18A	GERMAN - Adjective Ending Game
RSTS11-18B	GEDIT - GERMAN Data File Editor
RSTS11-19	FAST; ECONMY,ECON2; ONIONS
RSTS11-20	TREK - Star Trek Game
RSTS11-21	ROBOT and FIX
RSTS11-24	BPDEMO - Additional BASIC-PLUS Demos for the PDP-11
RSTS11-25	BRAVO
RSTS11-37	SPRING THING
RSTS11-39	YACHT - Yachting Championship Results
RSTS11-53	Computer Dating

XIV. PLOTTING

DECUS NO.	TITLE
11-44	Electron Spin Resonance and General Integration Program
11-47	External Functions for PDP-11 BASIC
11-115	One Programmer's Utility Package for the PDP-11
11-130	VT, PDP-11 DOS Compatible Driver for Tektronix 4010 Graphics Display Terminal
11-140	SQRS
11-141	FXSUBS
RSTS11-26	ROTATE, POLY, PLOT10, XYPLOT
RSTS11-64	NMRSIM - Nuclear Magnetic Resonance Simulation and Plotting Program
RSTS11-65	SPPLT - Hybrid Orbital Contour Plotting Program

XV. DESK CALCULATOR, BUSINESS APPLICATION

RSTS11-7	Accounting Package
RSTS11-11	Project DELTA Educational Package Section C Business Programs
RSTS11-33	Payroll, Idaho Falls Payroll System
RSTS11-34	Wabash College Student Information System
RSTS11-40	Management Case Studies
RSTS11-41	TYPIST
RSTS11-46	North Country Union High School Administrative Programs
RSTS11-48	Project DELTA Educational Package Section G Business Programs Section H Data Processing Programs
RSTS11-52	Fiscal Accounting

XVI. MAINTENANCE

11-17	TTY Code to Octal

XVII. MISCELLANEOUS

DECUS NO.	TITLE
11-94	Transformed Z Scores
11-139	QANDA
RSTS11-16	TALK - Inter-Terminal Communication Program
RSTS11-22	TUTRØ1-TUTR17, BASIC Tutoring Programs
RSTS11-23	NAMES and CEMGEN, Computerized Question Generation
RSTS11-31	INRAN, OUTRAN - Computerized Question Generation #2
RSTS11-39	YACHT - Yachting Championship Results
RSTS11-43	Elementary Instructional Programs
RSTS11-44	Fractions Drill and Practice
RSTS11-47	Project DELTA Educational Package Section E Additional Math Programs Section F Teacher Assistance Programs
RSTS11-62	Bentley Variety Package
RSTS11-66	Elementary Instructional Programs, Vol. II

DECUS NO.	TITLE
11-114	GT40.MAC - A FORTRAN Subroutine Set for the GT40 Series Display (VT11)
11-115	One Programmer's Utility Package for the PDP-11
11-116	BACADI, ASCII-EBCDIC Magtape File Dump
11-117	TY.MAC, Typewriter Driver for Extra Teletypes for DOS
11-118	GULP, GAMMA-11 Utility Program
11-119	Volume/Dosage Calculation Program for Tc or In
11-120A&B	Determination of Blood Volume Red Blood Cell Survival
11-121	WABC Core Dumper
11-122	DVRTST - DOS Driver Testing Package
11-123	AN5800; A Group of Routines for Handling the Analogic AN5800 Data Conversion System
11-124	BLKUSE, Block Usage Summary for File Structured Devices
11-125	MINIPIP-11
11-126	ECAP
11-127	Interval Histogram Program V.003
11-128	QUANDA
11-129	Single User BASIC, Version GEO8B
11-130	VT, PDP-11 DOS Compatible Driver for Tektronix 4010 Graphics Display Terminal
11-131	CALEND - Calendar Generator
11-132	TED-11A, Text Editor
11-133	COLIST
11-134	GONIF
11-135	TGH GAMMA-11 Package - HEAD, STOM, RENO
11-136	THYR
11-137	BOOT
11-138	FODT
11-139	QANDA
11-140	SQRS
11-141	FXSUBS
11-142	UPTK
11-143	STIRS, Self-Training Interpretive and Retrieval System Programs for Mass Spectral Data
11-144	DELFIL, Delete a File from FORTRAN
11-145	X-RAY: An On-Line Program for Automatic Electron Microanalysis of Oxides and Silicates Using a Si(Li) Spectrometer

DECUS NO.	TITLE
11-146	PDM7Ø Support Routines
11-147	AMD - ANSI CDC 2000 Series User Terminal Simulator
11-148	RSX-11D Core Dump
11-149	SNPDMP
11-150	RFSAV and RFRST
11-151	FFT - A Conversational Fast Fourier Transform
11-152	GAMMA-11 Package: VQ, MTT, QPQS, XEBH
11-153	SMOT
11-154	DEXP
11-155	RADIX - Base Conversion Routine
11-156	DOS FOCAL, DOS Drivers and LIST-11
11-157A,B,C	RSX-11D Task Package A. ODT - Initiate Task B. STA - Print Task Status C. FCH - File Change Program
11-158	STAGE2 for the PDP-11
11-159	READID.MAC
11-160	BLISS-11
11-161	1401 Simulator
11-162	CHSSLV: A Chess-Problem Solver
11-163	RSX-11D TECO
11-164	Clock Generator
11-165	MR11DX
11-166	CILINK - A Swapping Overlay Loader
11-167	Real Time EXF for Single User BASIC
11-168	PDP-11 Program to Load Card Output Produced by the Wang IBM 370/PDP-11 Cross Assembler and Linker
11-169	Tri-Data Paper-Tape PAL-11A Assembler
11-170	DOS/RT11 9-track Magtape Generate/Read Programs for UNIVAC
11-171	DEAS
11-172	RTDOS
11-173	Moonlander (LEM)
11-174	STAR-TREK (SPACWR)
11-175	DC.MAC - RC Disk Driver for RT11
11-176	RUN.MAC/SSWTCH.MAC
11-177	PARITY.MAC - High Speed Even (Odd) Parity Paper Punch Driver

name, I/O usage, and event flags are also output.

STATUS differs from the DEC-supplied ACT function in that only one task status is listed and the output format is more readable.

C. File Change Program - This program allows alterations to the contents of a file one word at a time. Data may be input in octal, decimal, ASCII, or as Radix-50 characters. The program has a special mode for patching task-image files, that allows the user to address task virtual addresses and not be concerned with file headers or block boundaries. (However, the program does not properly address overlays.)

Minimum Hardware: PDP-11, RSX-11D
Source Language: MACRO-11

DECUS NO. 11-158

STAGE2 For The PDP-11

W. M. Waite, University of Colorado. DOS-11 Implementation by Peter H. Heinrich, University of Karlsruhe, Inst. f. Biokybernetic, D-75 Karsruhe, Germany

STAGE2 is a general purpose macro processor similar to ML/1 (DECUS NO. 11-69). The features are described in William M. Waite's book "Implementing Software for Non-numeric Applications," Prentice-Hall, N. J., 1973.

Minimum Hardware: PDP-11/20+ EAE, PDP-11/40 + EIS or PDP-11/45
Other Programs Needed: DOS-11
Storage Requirement: Uses all core available
Source Language: MACRO-11

DECUS NO. 11-159

READID.MAC

Paul Koning
Submitted by: Michael Hall, Lawrence University, Appleton, Wisconsin

This program reads the ID of any RK05 disk pack. It is useful if the physical label on the outside of the pack becomes lost or unreadable and allows you to know the ID of a pack in order order to mount it.

See ordering information under RSTS11-36

DECUS NO. 11-160

BLISS-11

Carnegie-Mellon University, Wulf, et al
Submitted by: Stephen Lieman, Digital Equipment Corporation, Maynard, Massachusetts

The BLISS-11 compiler is a highly optimizing cross-compiler developed at Carnegie-Mellon University by Wulf, et al. Written in BLISS-10, it runs on the DECsystem-10 and outputs assembler code for the PDP-11.

The BLISS-11 language is a typeless, goto-less, machine-dependent language which has been found to be most useful for system implementation purposes.

The revised BLISS-11 Programmer's Manual reflects the current state of the language and the compiler. It represents a substantial improvement over the preceding version of the manual, and it corresponds closely to the current compiler. Source and object modules will be released to DECUS at a later date.

See ordering information under 10-213.

DECUS NO. 11-161

1401 Simulator

Edward Geigler, Carleton College, Northfield, Minnesota
Submitted by: Alice Peters, Digital Equipment Corporation, Maynard, Massachusetts

The 1401 Simulator runs 1401 programs on the PDP-11. The maximum 1401 machine configuration which can be simulated is: 16K 1401 with Sense Switches B-G, high-low equal compare, indexing, modify address, start A and B-address registers, move characters to record-mark or group-mark-wordmark, scan disk and direct seek, 1402 card reader/punch, 1403 line printer, 1407 console inquiry station, and up to five 1311 disk drives.

Source Language: MACRO-11

DECUS NO. 11-162

CHSSLV: A CHESS-PROBLEM SOLVER

Ir. R. C. Van Der Eijk, Hogere Technische School, Heerlen, The Netherlands

This program solves chess problems. White checkmates black in 2 or 3 moves.

Castling and "En Passant" are forbidden moves.

Minimum Hardware: 8K PDP-11, TTY, DECtape
Other Programs Needed: RT-11
Source Language: MACRO-11

DECUS NO. 11-163

RSX-11D TECO

Hank Krejci, Digital Equipment Corporation, Maynard, Massachusetts

TECO is a powerful text editing and correcting program that runs under the RSX-11D operating system. TECO may be used to edit any form of ASCII text such as program listings, manuscripts, correspondence and the like. Since TECO is a character-oriented editor rather than a line editor, text edited with TECO does not have line numbers associated

DECUS NO. 11-163 (Continued)

with it, nor is it necessary to replace an entire line of text in order to change one character.

Note: Several features of RSX-11D TECO fail to operate correctly when the multi-TTY handler is employed. All features operate correctly with the single-TTY handler.

Minimum Hardware: RSX-11D Configuration
Storage Requirement: Selectable at TASBUILD
Source Language: MACRO-11

DECUS NO 11-164

Clock Generator

Mike Rudnick, Tektronix, Inc., Beaverton, Oregon

The Clock Generator is a group of routines which allow for convenient and flexible use of the PDP-11 line frequency clock. Clocks generated by the Clock Generator may be thought of as self-resetting alarm clocks.

Minimum Hardware: PDP-11, line frequency clock
Source Language: MACRO-11

DECUS NO. 11-165

MR11DX

David T. Boylan, ELS Systems Engineering, East Cleveland, Ohio

MR11DX is an extended version (cassette boot included) of the MR11DB hardware ROM boot loader. It is intended for use in systems which have occasion to boot from many devices but do not have the hardware version; it can also be used in conjunction with the paper tape ROM boot loader to save cost and card space.

Storage Requirement: 1/2K
Source Language: MACRO-11

DECUS NO. 11-166

CILINK - A Swapping Overlay Loader

R. N. Stillwell, Baylor College of Medicine, Houston, Texas

CILINK is a FORTRAN-compatible swapping overlay loader which will run on a PDP-11/40 or PDP-11/45 under PDP-11 DOS V.08 or V.09. It allows an overlay to call another overlay into its own memory space, without losing the values of its local variables. It also allows recursive calls. The RK11 is a required peripheral.

Other Programs Needed: LINK V.11, CILUS
Storage Requirement: 1362 bytes (total)
Restrictions: Not compatible with new LINK
Source Language: MACRO

DECUS NO. 11-167

Real Time EXF for Single User BASIC

Stephen E. Edgell, University of Louisville, Louisville, Kentucky

External event control and data recording are facilitated for the PDP-11 Single User BASIC paper tape software. The control of one DR11C interface is supported. Timing control including delaying of execution and recording of external latencies are supported by version 1 using the line frequency clock and by version 2 using the programmable real time clock. User programming is in BASIC with function references to this EXF for real time actions.

Minimum Hardware: PDP-11, DR-11C, clocks as stated in abstract
Other Programs Needed: Paper tape software loader and assembler - DEC-11-L2PC-PO; DEC-11-UPLAA-A-PB
Single User BASIC -DEC No. LIBKIT-11
Storage Requirement: 8K
Source Language: PAL-11A

DECUS NO. 11-168

PDP-11 Program to Load Card Output Produced by the Wang IBM 370/PDP-11 Cross Assembler and Linker

E. H. Spencer, Exxon Company, Baton Rouge, Louisiana

The Wang 370/PDP-11 Cross Assembler and Linkage Editor, when assembling and linking PDP-11 programs on an IBM 370 computer, punches a PDP-11 object module to cards in the Absolute Binary Loader (V006A) format. This DECUS Library entry provides a bootstrap and a modification of the DEC Absolute Binary Loader (V006A) to allow the Documation 300 card reader to read and store these load modules to PDP-11 memory.

Restrictions: Not relocatable, but can be changed for different core sizes

DECUS NO 11-169

Tri-Data Paper-Tape PAL-11A Assembler

Jack R. Ellis, Tri-Data Corporation, Mountain View, California

This program is a revised paper-tape PAL-11A assembler for PDP-11 computers. Additional features include true double-buffering of source, binary, and listing data for maximum throughput; 11/40 and 11/45 extended instruction handling; line-printer listing output; and a wide-line listing format that allows multiple-word instructions to be printed on one line. This assembler operates in 4K to 28K of memory and handles up to 7000 symbols.

Peripherals: ASR-33. Supports high-speed reader/punch, line-printer
Source Language: PAL-11A

DECUS NO. 11-170

DOS/RT11 9-Track Magtape Generate/Read Programs for UNIVAC

Michael N. LeVine, Naval Weapons Center, China Lake, California

A library of four (4) programs that when run on a UNIVAC 1108 or 1110 allows a user to generate or read a 9-track magtape in either DOS or RT11 format. The generating programs will take any mix of UNIVAC DATA files and FILE ELEMENTS and put them on 9-track magrape in the format wanted on a one for one basis - one UNIVAC DATA file or FILE ELEMENT will produce one tape file. The magtape reading programs will transfer the selected tape files to UNIVAC DATA FILES. These programs will handle ASCII files only - binary files cannot be handled.

The source for the four (4) programs comes as a card deck ready to be run on a UNIVAC with only the addition of a @RUN card. This deck, when run, creates a new file USER*FILE. into which is put the source listings for the four (4) main programs and six (6) subroutines, their respective relocatable binarys and the four (4) executable absolute binaries.

Minimum Hardware:	9 track magtape drive on both UNIVAC and PDP-11
Other Programs Needed:	NTRAN and ERTRAN in UNIVAC FORTRAN library
Source Language:	FORTRAN with FLD functions

DECUS NO. 11-171

DEAS

G. Everhart, P. O. Box 402, Upton, L. I., New York

DEAS is useful for the program which does PAUSEs a lot and requires users to assign datasets to do its I/O. It will remove any part of the Device Assignment Table built since a program began running and free the associated memory. Thus it enlarges the size of the largest possible program by enabling it to get by with less memory for assignments. It will also help reduce fragmentation of DOS buffers caused by such assignments while drivers are still in core.

FORTRAN and assembly language calls are provided.

Other Programs Needed:	DOS-11 V08 or V09
Source Language:	MACRO-11

DECUS NO. 11-172

RTDOS

Glenn C. Everhart, P. O. Box 402, Upton, L. I., New York

RTDOS-PAL provides DOS-11 with the ability to call a user subroutine upon completion of a read or write, thus enabling it to do "real-time" I/O. Because DOS allows multiple output files to be open at a time on a device, this makes it the system of choice for real-time applications in many situations.

Other Programs Needed:	DOS V08 or V09
Restrictions:	Not tested for DOS V4. Patch does not survive ↑ C KILL; method for allowing it to is given in document
Source Language:	MACRO-11

DECUS NO. 11-173

MOONLANDER (LEM)

Jack Burness
Submitted by: John Mucci, Digital Equipment Corporation, Maynard, Massachusetts

Moonlander is an interactive graphical simulation of a Lunar Excursion Module (LEM) landing on the lunar surface. The program requires a GT40 or equivalent. The program runs in real time, solving differential equations of motion by integration. The result is a highly interactive and instructional experience.

Minimum Hardware:	GT40 or equivalent; KW11-L Line Clock
Source Language:	MACRO-11

DECUS NO. 11-174

STAR-TREK (SPACWR)

Mike Mayfield, Centerline Engineering
FORTRAN IV version by Kay R. Fisher, Digital Equipment Corporation, Maynard, Massachusetts

This program simulates the TV program "STAR-TREK."

Other Programs Needed:	RT11, FORTRAN IV
Storage Requirement:	12K
Source Language:	RT11 FORTRAN IV

DECUS NO. 11-175

DC.MAC - R C Disk Driver for RT11

Michael N. Levine, Naval Weapons Center, China Lake, California

This program, when assembled, linked and entered into the monitor device tables, allows the RT11 user to access an RC disk as a non-system device-file structured unit.

Minimum Hardware:	PDP-11 RC disk
Other Programs Needed:	RT11 - V02 - 01A, MACRO
Source Language:	MACRO

DECUS NO. 11-176

RUN.MAC/SSWTCH.MAC

Michael N. LeVine, Naval Weapons Center, China Lake, California

Implementing CALL RUN and CALL SSWTCH to RT11 FORTRAN.

When used in a FORTRAN program the CALL SSWTCH is identical to the DOS version. The CALL RUN differs from the DOS version in that the file you wish to call up must be specified in RADIX50 format.

Other Programs Needed: RT11-V02-01A, FORTRAN
Source Language: MACRO

DECUS NO. 11-177

PARITY.MAC - High Speed Even (Odd) Parity Paper Punch Driver

Michael N. LeVine, Naval Weapons Center, China Lake, California

This program, when assembled, linked, and entered into the monitor driver tables, allows the user to punch paper tapes in either even or odd parity (depending on how the program was edited), the parity punch being used in the same way as any other I/O device. The final driver for the even parity punch being called EP.SYS and the driver for the odd parity punch OP.SYS.

Minimum Hardware: PDP-11 and high speed paper tape punch
Other Programs Needed: RT11-V02-01A
Source Language: MACRO

DECUS SERVICE CHARGES

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
11-1	NC	$	$2.	$ NC	$	$	$	$	$	$	
11-2	NC		2.	NC							
11-3	NC	2.		NC							
11-4	NC	2.	8.								
11-5	NC		2.	NC							
11-8	NC			NC							
11-9	NC		2.	NC							
11-10			8.								
11-11	NC				8.	20.					1 DTA
11-12	NC		2.								
11-13	NC	2.	2.								
11-14	NC	2.	2.	NC							
11-15	NC	2.	8.	10.							
11-16a	NC	2.	2.	5.							
11-17	NC	2.	2.	NC							
11-19	NC	2.		NC							
11-20	NC	2.	2.								
11-21	NC				8.	20.					1 DTA
11-22	NC				8.	20.					1 DTA
11-23	NC				8.	20.					1 DTA
11-25	NC				8.	20.					1 DTA (obj,src)
11-26	NC	2.	8.	5.							
11-27	NC	2.	2.								
11-28	NC	2.	2.								
11-29	NC	2.	2.								
11-31	NC	2.	8.	5.							
11-34	NC	8.									
11-35	NC	2.									
11-36	NC		2.	NC							
11-37	NC		2.	NC							
11-38	NC	2.		20.							
11-39	NC	2.	8.	10.							
11-40	NC	8.	8.								
11-41	NC		2.	NC							
11-42	NC	2.									
11-43a	NC										
11-44	NC	8.	2.	5.							

N/C - No Charge

U/S - User Supplied Tape (Certified)

D/S - DECUS Supplied Tape

For information not contained on this sheet see General Information

DECUS SERVICE CHARGES

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
11-45	NC	$	$	$	$ 8.	$20.	$	$	$	$	1 DTA
11-46	NC	2.	2.								
11-47	NC		8.	5.							
11-48	NC		8.								
11-49	NC	2.		NC							
11-50	NC	2.		10.							
11-51	NC	8.	8.	5.							
11-52	NC	2.	8.								
11-53	NC			NC	8.	20.					1 DTA
11-54	NC	2.	2.	NC							
11-55	NC	2.	2.	NC							
11-56	SEE RSTS	11-53									SEE RSTS11-53
11-57	NC			NC							
11-58	NC	2.	8.	10.							
11-59	NC	2.	2.	NC							
11-60	NC	2.	2.	NC							
11-61	NC	2.	2.	NC							
11-62	NC										
11-63A.a	NC										
11-63B.a	NC	2.									
11-63C.a	NC	2.									
11-63D.a	NC	2.									
11-63E.a	NC	2.									
11-63F.a	NC	8.									
11-63G.a	NC	8.									Same Write-up
11-63H.a	NC	2.									
11-63I.a	NC	2.									
11-63J									25.	50.	1 MTA (9-track) 2400'
11-63K.a									25.	50.	1 MTA (9-track) 2400'
11-64a	NC				8.	20.					1 DTA
11-65	NC	8.	2.								
11-66	NC	2.	2.								
11-67	NC		8.	5.							
11-68	NC				8.	20.					Same DTA (1)
11-69	2.*				8.	20.					*NC with tape
11-70	NC				8.	20.					1 DTA
11-71	NC				8.	20.					1 DTA

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DECUS SERVICE CHARGES

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
		$	$	$	$	$	$	$	$	$	
11-72	NC	2.	8.								
11-73	NC		8.	NC							
11-74	NC	2.	8.	10.							
11-75	NC	2.	2.	NC							
11-76	NC			10.							Card Deck - $50
11-77	NC		2.	NC							
11-78	NC			NC	8.	20.					1 DTA (obj,src)
11-79	NC	2.	8.	10.							
11-80	NC	2.	2.	NC							
11-81	NC	2.	2.	NC							
11-82	NC	2.		NC							
11-83	NC	8.	8.	NC							
11-84	NC		8.								
11-85	NC		8.								
11-86	NC				8.	20.					Same DTA (1) (obj,src)
11-87	NC				8.	20					
11-88	NC		8.	NC							
11-89	NC		2.	NC							
11-90	NC	2.	2.	NC							
11-91a	NC				8.	20.					1 DTA (obj,src)
11-92	NC			NC							Card Deck - $20
11-93A	NC				8.	20.					
11-93B	NC				8.	20.					Same DTA (1)
11-93C	NC				8.	20					
11-94	NC		2.	NC							
11-95	NC			10.	8.	20.					1 DTA (src)
11-96	NC										Tape On Hold
11-97	NC	2.									
11-98	NC		2.	NC							
11-99	NC		8.								
11-100	NC		2.								
11-101	1.*	8.	8.	*							*NC with tape
11-102	NC			NC	8.	20.					1 DTA
11-103	1.*			*	8.	20.					1 DTA *NC with tape
11-104	1.*			*	8.	20.					1 DTA *NC with tape
11-105	NC		2.								
11-106	NC				8.	20.					1 DTA (src)

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DECUS SERVICE CHARGES

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
11-107	NC	$	$2.	$	$	$	$	$	$	$	
11-108	1.*				8.	20.					1 DTA (obj,src) *NC with tape
11-109a	NC				8.	20.					1 DTA (obj,src)
11-110	NC			10.	8.	20.					1 DTA (obj,src)
11-111	NC			10.	8.	20.					1 DTA (obj,src)
11-112	NC			NC	8.	20.					1 DTA (obj,src)
11-113	NC		2.	NC							
11-114	NC			NC	8.	20.					1 DTA (src)
11-115	2.*			**5.	8.	20.					1 DTA;*NC with tape,**per section
11-116	NC			NC					25.	40.	1 MTA 600'
11-117	NC		8.	NC							
11-118	NC		2.								
11-119	NC		2.	NC							
11-120A	NC		2.	NC							
11-120B	NC		2.	NC							
11-121	NC	2.	8.	NC							
11-122	NC		2.								
11-123	NC		8.								
11-124	NC	2.	8.								
11-125	NC	2.	8.	NC							
11-126	NC			NC					25.	45.	1 MTA 1200'
11-127	NC	8.		10.							
11-128	NC		2.	NC							
11-129	NC	8.		10.							
11-130	NC			10.	8.	20.					1 DTA
11-131	NC	2.	8.	5.*							* On paper tape
11-132	NC	2.	12.	10.							
11-133	NC			NC	8.	20.					Same DTA (1)
11-134	NC			10.	8.	20.					
11-135	NC			NC							
11-136	NC		8.	NC							
11-137	NC		2.	NC							
11-138	NC		2.	NC							
11-139	NC			NC							
11-140	NC		2.	NC							
11-141	NC		2.	NC							
11-142	NC		2.	NC							

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D/S - DECUS Supplied Tape

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DECUS SERVICE CHARGES

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
11-143	NC	$	$ 12.	$ 10.	$	$	$	$	$	$	
11-144	NC	2.	2.	NC							
11-145	1.*			*							*NC with tape
11-146	NC	2.	8.	10.	8.	20.					1 DTA
11-147	NC	8.	12.	10.	8.	20.			25.	40.	1 DTA, 1 MTA 600'
11-148	NC		8.	NC							
11-149	NC		8.	NC							
11-150	NC		8.	NC							
11-151	NC			NC	8.	20.					1 DTA (obj,src)
11-152	NC		8.								
11-153	NC		2.	NC							
11-154	NC		2.	NC							
11-155	NC	2.	2.	NC							
11-156	NC				8.	20.					1 DTA (obj,src)
11-157A									25.	40.	Same MTA (1) 600'
11-157B	1.*			*					25.	40.	*NC with tape
11-157C									25.	40.	
11-158	NC				8.	20.					1 DTA
11-159	See RSTS11-36										
11-160	2.										
11-161	1.*				8.	20.					1 DTA *NC with tape
11-162	NC		8.	NC							
11-163	1.*				8.	20.			25.	40.	*NC with tape; 1 DTA; 1 600' MTA
11-164	NC		2.	NC							
11-165	NC	2.	2.	NC							
11-166	NC				8.	20.					1 DTA (src,doc)
11-167	NC		8.	NC							
11-168	NC			NC							Card Deck - $20.
11-169	NC	2.	12.	20.							
11-170	NC			NC							Card Deck - $50.
11-171	NC		2.	NC							
11-172	NC		2.	NC							
11-173	NC	8.			8.	20.					1 DTA (src)
11-174	NC		8.	NC							
11-175	NC		2.	NC							
11-176	NC		2.	NC							
11-177	NC		2.	NC							

N/C - No Charge

U/S - User Supplied Tape (Certified)

D/S - DECUS Supplied Tape

For information not contained on this sheet see General Information

RSTS NUMERICAL INDEX

DECUS NO.	TITLE
RSTS11-1a	EDITOR.BAS (and EDITIN), Version 6A
RSTS11-2	UTILITIES, EDITORS AND HANGMAN GAME
RSTS11-3	TEXT EDITOR FOR RSTS
RSTS11-4	Withdrawn
RSTS11-5	CREATE AND CREAT1
RSTS11-6	RESEQ - Program Resequencing
RSTS11-7	Accounting Package
RSTS11-8	System Status Display - Hazeltine 2000
RSTS11-9	Project DELTA Educational Package, Section A, Mathematics Programs
RSTS11-10	Project DELTA Educational Package, Section B, Statistics Programs
RSTS11-11	Project DELTA Educational Package, Section C, Business Programs
RSTS11-12	Project DELTA Educational Package, Section D, Electronics and Production Oriented Programs
RSTS11-13	Games, Puzzles and Recreation-1
RSTS11-14	Games, Puzzles and Recreation-2
RSTS11-15	LSFORM - LS11 Centronix Line-Printer Driver for RSTS V4A
RSTS11-16	TALK - Inter-Terminal Communication Program
RSTS11-17	TEXTED
RSTS11-18A	GERMAN - Adjective Ending Game
RSTS11-18B	GEDIT - German Data File Editor
RSTS11-19	FAST; ECONMY, ECON2; ONIONS
RSTS11-20	TREK - Star Trek Game
RSTS11-21	ROBOT and FIX
RSTS11-22	TUTRØ1-TUTR17, BASIC Tutoring Programs
RSTS11-23	NAMES and CEMGEN, Computerized Question Generation
RSTS11-24	BPDEMO - Additional BASIC-PLUS Demos for the PDP-11
RSTS11-25	BRAVO
RSTS11-26	ROTATE, POLY, PLOT10, XYPLOT
RSTS11-27	GENES
RSTS11-28	Line Editor for RSTS-BASIC (Modify)
RSTS11-29	EDIT
RSTS11-30	COSAP, Conversationally Oriented Statistical Analysis Package
RSTS11-31	INRAN, OUTRAN - Computerized Question Generation #2
RSTS11-32	EDIT8
RSTS11-33	PAYROLL, Idaho Falls Payroll System
RSTS11-34	Wabash College Student Information System
RSTS11-35	COMSYS - RSTS-11 Communications System
RSTS11-36	READID.MAC
RSTS11-37	SPRING THING
RSTS11-38	Analog Computer Simulator
RSTS11-39	YACHT - Yachting Championship Results
RSTS11-40	Management Case Studies
RSTS11-41	TYPIST
RSTS11-42	MIS - Management Information System
RSTS11-43	Elementary Instructional Programs
RSTS11-44	Fractions Drill and Practice
RSTS11-45	Dartmouth Statistics Programs
RSTS11-46	North Country Union High School Administrative Programs
RSTS11-47	Project DELTA Educational Package, Section E Additional Mathematics Programs Section F Teacher Assistance Programs
RSTS11-48	Project DELTA Educational Package, Section G Business Programs Section H Data Processing Programs
RSTS11-49	SADSM
RSTS11-50	MIGIT
RSTS11-51	ACCMAT - Account Maintenance File
RSTS11-52	Fiscal Accounting
RSTS 11-53	Computer Dating
RSTS11-54	TAPFOR.MAC
RSTS11-55	XREF.BAS
RSTS11-56	The Timer Package
RSTS11-57	PACK.BAS
RSTS11-58	MOVERX.BAS
RSTS11-59	LISTAL.BAS
RSTS11-60	PUNCH.BAS
RSTS11-61	HELPER
RSTS11-62	Bentley Variety Package
RSTS11-63	NORTON - Astronomical Ephemeris Program Package
RSTS11-64	NMRSIM - Nuclear Magnetic Resonance Simulation and Plotting Program

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RSTS11-65	SPPLT - Hybrid Orbital Contour Plotting Program
RSTS11-66	Elementary Instructional Programs, Vol. II

RSTS11-50

MIGIT

Dennis Washa, University of Wisconsin, Platteville, Wisconsin

MIGIT is a symbolic language developed to aid a beginning programmer in the understanding of an assembly language. MIGIT is the counterpart of the machine language called SADSM which was developed in an earlier program. The opcodes in both SADSM and MIGIT are compatible, that is, the coding of MIGIT is translated into SADSM, and all SADSM coding can be easily converted to MIGIT. An assumption is therefore made that the MIGIT programmer has programmed in SADSM.

Minimum Hardware:	PDP-11/40
Storage Requirement:	8K
Source Language:	BASIC-PLUS

RSTS11-51

ACCMAT - Account Maintenance File

Lawrence A. Dziegielewski, Project DELTA, Newark, Delaware

This BASIC-PLUS program allows the user to perform transfer, deletion, listing, renames, and protection changing by using only one program 'ACCMAT' instead of using CAT and PIP. When the file is printed out, you need not look up block sizes and protections, because it prints them out with the file name. Any of the above mentioned options can be performed on the file, making it faster than either CAT or PIP.

Storage Requirement:	4K
Source Language:	BASIC-PLUS

RSTS11-52

Fiscal Accounting

John Christensen, Idaho Falls School District, Idaho Falls, Idaho

The Fiscal Accounting Package, a fully accrued and encumbered system of accounting, consists of two subsystems, accounts payable and general ledger reporting. The accounts payable package (A.P.) includes the normal accounts payable functions; the general ledger package (G.L.) includes the printing of the general ledger and various forms of budget and expenditure reports.

The Fiscal Package is for the most part a conversion of a similar package developed for an IBM 1401. It is therefore card input oriented. However, that is the only use of cards; the input programs could easily be modified for terminal input. All sorting and data manipulation is done on the disks and output is either to the disks or the line printer. The equipment necessary for the cards is a keypunch and a punched card reader for the PDP-11. The entire package is written in the RSTS V4A-12 BASIC-PLUS language.

A third package can be used in conjunction with the A. P. and G. L. packages. That package is a Payroll Package (also available from DECUS as number RSTS11-33) based on the same system of accounting. The entire system is based on double entry bookkeeping. The A. P. and G. L. package, however, stand alone without the payroll package.

The accounting system is based on a 16 digit general ledger account number. The account number contains in a more concise form most of the information recommended by the Federal Handbook II for school fiscal accounting.

Storage Requirement:	28K

RSTS11-53

Computer Dating

David Corbishley, 106 Sorrel Drive, Surrey Park, Wilmington, Delaware

A computer game which, using and coding information from a questionnaire supplied with the program, compares compatibility of males and females participating. Selective printing of the results and the ability to use any RSTS device are features of the program.

RSTS11-54

TAPFOR.MAC

Paul Koning and Mark Williamson
Submitted by: Michael A. Hall, Lawrence University, Appleton, Wisconsin

TAPFOR is a program for formatting DECtapes in the standard format for the PDP-11. It was adapted from the standard DEC formatting program, DEC-11-YPTA-PB (8/1/70), so that it can be stored on the RSTS CIL and loaded by the RSTS initializing routines, in the same way as ROLLIN or DSKINT.

Operating System:	DOS V004A or RSTS V4A-12
Storage Requirement:	28K 16-bit words on a PDP-11/20 or 11/35
Peripherals Required:	Console terminal, DECtape drives
Source Language:	PAL-11 (MACRO) (Does not use monitor)

RSTS11-55

XREF.BAS

Paul Koning
Submitted by: Michael A. Hall, Lawrence University, Appleton, Wisconsin

XREF prepares a cross-reference table for a BASIC-PLUS program; that is, it prints out a table that shows each line that occurs in the program and the line numbers of the lines that refer to that line with a GO TO, a RESUME, etc.

Operating System:	RSTS V4A-12 (or RSTS/E)
Storage Requirement:	28K 16-bit words on 11/20
Source Language:	BASIC-PLUS

RSTS11-56

The Timer Package

G. Paul Koning
Submitted by: Michael A. Hall, Lawrence University, Appleton, Wisconsin

TIMER records terminal usage, number of jobs (detached and non-detached), and benchmark disk I/O every 10 minutes; it also records current date and time every 30 seconds, and thus determines system downtime. TIMOUT, a program in the TIMER package, prints out this information.

Operating System:	RSTS V4A-12
Storage Requirement:	28K 16-bit words on PDP-11/20 or 35
Source Language:	BASIC-PLUS

RSTS11-57

PACK.BAS

Paul Koning
Submitted by: Michael A. Hall, Lawrence University, Appleton, Wisconsin

This program reads the contents of an RK05 disk, file by file, and outputs a RK05 disk pack containing all files read. The output disk is "packed"; that is, it contains no waste space, it has a clean directory, etc. As a result, the output disk will operate more efficiently under RSTS-11.

Operating System:	RSTS V4A-12
Peripherals Required:	Console terminal, two or more RK05 disk drives
Storage Requirement:	28K 16-bit words on PDP-11/20 or 35
Source Language:	BASIC-PLUS

RSTS11-58

MOVERX.BAS

Mark Williamson
Submitted by: Michael A. Hall, Lawrence University, Appleton, Wisconsin

MOVERX is a general purpose file mover and peripheral interchange program for use by privileged (1,x) and unprivileged accounts. It performs DECtape-to-DECtape, DECtape-to-disk, disk-to-DECtape, and disk-to-disk transfers of any kind of files (including virtual core files and, for privileged users only, .BAC files).

Operating System:	RSTS V4A-12 (or RSTS/E)
Storage Requirement:	28K 16-bit words on PDP-11/20
Source Language:	BASIC-PLUS

RSTS11-59

LISTAL.BAS

Paul Koning
Submitted by: Michael A. Hall, Lawrence University, Appleton, Wisconsin

LISTAL.BAS is a program for listing one or more files in paged format. On request, it will list all files, or all except specified files, in a specified account on a specified device (up to 100 files maximum can be specified, although more than that can be listed).

Operating System:	RSTS V4A-12 (or RSTS/E)
Storage Requirement:	28K 16-bit words on PDP-11/20
Source Language:	BASIC-PLUS

RSTS11-60

PUNCH.BAS

Steve Holmgren
Submitted by: Michael A. Hall, Lawrence University, Appleton, Wisconsin

PUNCH punches paper tapes on ASR 33 teletypes. Included on the tape are a leader of nulls, an arrow showing direction of tape motion, the name of the file in readable format, and a series of rubouts to indicate the beginning of machine readable information. PUNCH also edits out LFs after CRs.

Operating System:	RSTS V4A (or RSTS/E)
Peripherals Required:	ASR 33 or other paper tape terminal
Storage Requirement:	28K 16-bit words on PDP-11/20
Source Language:	BASIC-PLUS

RSTS11-61

HELPER

Eliezer Naddor, The Johns Hopkins University, Baltimore, Maryland

Program HELPER can be used with great ease to edit and renumber any BASIC-PLUS program. It has nine options which include finding or changing of strings in any program, renumbering any portion of it, listing or adding lines, running the program, or copying it.

HELPER commands are given in aggregates. The execution of any command can be stopped at any time without loss of data supplied earlier.

The design and detailed documentation allow relatively easy modification of the existing options or addition of new options.

Storage Requirement: 7K
Source Language: BASIC-PLUS

RSTS11-62

Bentley Variety Package

Ross Kass, Darryl Johnson, et al, Bentley College, Waltham, Massachusetts

This package contains a variety of routines. Among the subjects included are: Accounting, Games, Government, Management (including two critical path routines), Mathematics, Physics, Science, Statistics, and Utilities.

Operating System: RSTS
Storage Requirement: Not more than 8K
Source Language: BASIC-PLUS

RSTS11-63

NORTON - Astronomical Ephemeris Program Package

Warren A. Leach
Submitted by: Hartwell "Rusty" Whitney, OMSI Community Research Center, Portland, Oregon

NORTON is a RSTS BASIC-PLUS package which gives planet and asteroid positions for any date from January 1, 1900. It will run under RSTS Versions 4 or 5 (8K Job Max). Key phrases are astronomy, planetary position calculator, word processing and solar system simulation.

Storage Requirement: 8k
Restrictions: Does not include comet calculations or graphics programs
Source Language: BASIC-PLUS

RSTS11-64

NMRSIM - Nuclear Magnetic Resonance Simulation and Plotting Program

James S. Evans, Lawrence University, Appleton, Wisconsin

Especially designed for a timesharing environment, NMRSIM simulates nmr spectra using hypothesized values of coupling constants, chemical shifts, rf power, and relaxation times. Fifteen operational modules in three source program segments interact dynamically, requesting parameters in a natural order, computing and plotting spectra for up to six spin-1/2 nuclei or fewer with larger spins, permitting revisions of parameters with minimal repetition, and protecting against erroneous keyboard entries. Line spectrum files can be computed at any terminal and stored on disk for later plotting with the program. The plotting subroutines, which give full control over scaling of the plot with only four input numbers, support the Tektronix 4010 graphics terminal, the TSP-12 or TSP-212 plotting systems, and the Hewlett-Packard 7200A/7202A graphic plotters. Note: DECUS NO. 10-221 is a similar program in FORTRAN.

Operating System: RSTS V4A-12, 05-21, 05B-24
Storage Requirement: 8K user area
Source Language: BASIC-PLUS

RSTS11-65

SPPLT - Hybrid Orbital Contour Plotting Program

Stephen L. Holmgren
Submitted by: James S. Evans, Lawrence University, Appleton, Wisconsin

Especially designed for a timesharing environment, SPPLT prepares accurate contour plots of hybrid atomic orbitals with specified contour levels, effective nuclear charge, amounts of 2s and 2p character, and geometric operations (scaling, translation, rotation). After plotting, the user can replot the same orbital with different scaling parameters, or perform calculations for a different orbital shape. The program's operational modules are contained in two source program segments with automatic chaining. The plotting subroutines support the Tektronix 4010 graphics terminal, the TSP-12 or TSP-212 plotting systems, and the Hewlett-Packard 7200A/7202A graphic plotters. Note: DECUS NO. 10-212A&B is an equivalent program written in PDP-10 BASIC, Version 17.

Operating System: RSTS V05-21, V05B-24
Storage Requirement: 8K user area
Source Language: BASIC-PLUS

Elementary Instructional Programs, Volume II

Robert A. Huntsman
Submitted by: John A. Christensen, Idaho Falls School District No. 91, Idaho Falls, Idaho

This series of 10 programs is designed to supplement the elementary or junior high instruction program. They also can be used for remedial work in high school. The programs not only drill the student in number facts for all four operations, but some of the programs drill the student on problems such as: [ ] x 6 = 48. What is [ ] ? The unique thing about this package is that the programs are timed. The object is to do as many of a given type of problems as can be done in the given amount of time. The student who does the most sets the record. Each time the program is run the record holder's name is printed with his record and the student then tries to beat that record so he can be recorded as the record holder. This feature is optional.

A complete documentation of the package and program listings can be printed on a printer by running from the DECtape the program 'PRINT' under the RSTS monitor.

Storage Requirement: 28K
Source Language: BASIC-PLUS

DECUS SERVICE CHARGES

DECUS NO.	WRITE-UP	PAPER TAPE BIN	PAPER TAPE ASCII	LISTING	DECTAPE U/S	DECTAPE D/S	LINCTAPE U/S	LINCTAPE D/S	MAGTAPE U/S	MAGTAPE D/S	OTHER INFORMATION
	$	$	$	$	$	$	$	$	$	$	
RSTS11-1a	NC		8.								
RSTS11-2	NC			NC	8.	20.					1 DTA (src)
RSTS11-3	NC		2.	NC							
RSTS11-5	NC		2.	NC							
RSTS11-6	NC		2.	NC							
RSTS11-7	1.*			*	8.	20.			25.	40.	1 DTA, 1 MTA; *NC with tape
RSTS11-8	NC		2.	NC							
RSTS11-9	1.*			*	8.	20.			25.	40.	RSTS11-7,9,10,11,12
RSTS11-10	NC			NC					25.	40.	offered on one magtape 600'
RSTS11-11	3.*			*	8.	20.			25.	40.	*NC with tape
RSTS11-12	1.*			*					25.	40.	
RSTS11-13	NC				8.	20.					1 DTA (src)
RSTS11-14	NC				8.	20.					1 DTA (src)
RSTS11-15	NC			NC	8.	20.					1 DTA (obj,src)
RSTS11-16	NC		2.	NC							
RSTS11-17	NC		8.	NC							
RSTS11-18A	NC		2.	NC							
RSTS11-18B	NC		2.	NC							
RSTS11-19	NC		8.	NC							
RSTS11-20	NC		2.	NC							
RSTS11-21	NC		2.	NC							
RSTS11-22	NC				8.	20.					1 DTA
RSTS11-23	NC		2.	NC							
RSTS11-24	NC		8.								
RSTS11-25	NC			NC							
RSTS11-26	NC		8.	NC							
RSTS11-27	NC			NC							
RSTS11-28	NC		2.	NC							
RSTS11-29	NC		2.	NC							
RSTS11-30	2.*				8.	20.					1 DTA (src,doc) *NC with tape
RSTS11-31	NC		2.	NC							
RSTS11-32	NC		2.	NC							
RSTS11-33	1.*			20.	16.	40.					2 DTA *NC with tape
RSTS11-34	3.*			*	32.	80.					4 DTA *NC with tape
RSTS11-35	NC		2.	NC							
RSTS11-36	NC		2.	NC							
RSTS11-37	NC		2.	NC							

N/C - No Charge

U/S - User Supplied Tape (Certified)

D/S - DECUS Supplied Tape

For information not contained on this sheet see General Information

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DECUS SERVICE CHARGES

DECUS NO.	WRITE-UP	PAPER TAPE		LISTING	DECTAPE		LINCTAPE		MAGTAPE		OTHER INFORMATION
		BIN	ASCII		U/S	D/S	U/S	D/S	U/S	D/S	
RSTS11-38	NC	$	$ 2.	$ NC	$	$	$	$	$	$	
RSTS11-39	NC			NC							
RSTS11-40	NC			NC	8.	20.					1 DTA
RSTS11-41	NC				8.	20.					1 DTA
RSTS11-42	NC		2.	NC							
RSTS11-43	2.*			*	8.	20.					1 DTA *NC with tape
RSTS11-44	3.*			*	8.	20.					1 DTA *NC with tape
RSTS11-45	1.*			*	8.	20.					1 DTA *NC with tape
RSTS11-46	2.*			*	16.	40.					*NC with tape 2 DTA -
											A. Financial, B. Student Admin.
RSTS11-47	2.*			*	8.	20.					1 DTA *NC with tape
RSTS11-48	2.*			*	8.	20.					1 DTA *NC with tape
RSTS11-49	NC		8.	NC							
RSTS11-50	NC		8.	NC							
RSTS11-51	NC		2.	NC							
RSTS11-52	1.*			20.	8.	20.					1 DTA *NC with tape
					8.	20.					1 DTA - Documentation tape
RSTS11-53	NC		2.	NC							
RSTS11-54	NC			NC	8.	20.					
RSTS11-55	NC			NC	8.	20.					
RSTS11-56	NC			NC	8.	20.					
RSTS11-57	NC			NC	8.	20.					1 DTA - RSTS11-54 thru RSTS11-60
RSTS11-58	NC			NC	8.	20.					
RSTS11-59	NC			NC	8.	20.					
RSTS11-60	NC			NC	8.	20.					
RSTS11-61	NC		2.	NC							
RSTS11-62	1.*			*	8.	20.					1 DTA *NC with tape
RSTS11-63	NC		8.	NC	8.	20.					1 DTA
RSTS11-64	NC			NC	8.	20					Same DTA (1)
RSTS11-65	NC			NC	8.	20.					
RSTS11-66	Abstract			On Tape	8.	20.					1 DTA including write-up & Listing

N/C - No Charge

U/S - User Supplied Tape (Certified)

D/S - DECUS Supplied Tape

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